Letters to Washingt Students of pre-Bevolutionary history are in debted to the Society of the Colonial Dames of merica, and especially to Jane J. Boudinot, Julia Livingston Delafield and Elizabeth Fisher ng, who have been appointed a committee for the purpose of undertaking the publication of a collection of letters deposited in the Department of State, almost all of which were dressed to Washington. The first volume which is edited by STANISLAUS MURRAY HAMIL TON, covers the period from July, 1752, to No. vember, 1754. The letters are here printed their defects in respect of spelling and prostation. They are rendered intelligible and interesting by the genealogical and biographical which have been added by the editor.

precisely as they were written, with all The historical value of the documents, co taining, as they do. first-hand contemporary testimony in relation to important events, i adisputable. This we shall exemplify by reproducing some of the letters referring to the expedition under Gen. Braddock, which came to such a disastrous end in July, 1755. should premise that, in October, 1754.

Col. Washington had remained inactive at Mount Vernon, deeming it derogatory to his nor to hold a commission under Gov. Din widdle's scheme of independent companies It could not be expected, either, that he would subject himself to the humiliating terms of the order issued by George III. in November, 1754 to the effect that officers commissioned by himself or by the General commanding-in-chief it North America should take rank of officers perving by commission from Governors of Lieutenant-Governors, even though the con missions of the provincial officers of the like rank should be of elder date. It is plain, however, that Washington's passion for a military life had not abated. Gen. Braddock, who ar rived in Virginia Feb. 19, 1755, was made acquainted with his value, and, apprecisting the importance of securing his service for the contemplated expedition against For quesne, directed his aide-de-camp, Mr. Rob ert Orme, to write to Washington proposing expedients by which the chief obstacles to his joining the column then in preparation might be removed. The letter runs as follows. except that in this, as in every other document quoted by us, the spelling and pronunciation are corrected: "Sir. the General having been informed that you expressed some desire to make the campaign, but that you declined it upon the disagreeableness that you thought might arise from the regulation of commands Ithe royal order relating to the rank of provin cial officers! has ordered me to acquaint you that he will be very glad of your company in his family, by which all inconveniences of that kind will be obviated. I shall think myself very happy to form an acquaintance with a person so universally esteemed, and shall use every opportunity of assuring you how much I am, sir, your most obedient servant.' On May 15, 1755, the following instructions

by Major-Gen. Braddock, Commander-in-Chief of his Majesty's forces in America, to George Washington, Esq.: "You will repair to Hampton in Virginia with as much expedition as may be; and, immediately upon your arrival there, you will apply to John Hunter, Esq. [Commissary), for the sum of four thousand pounds sterling, for which you will receive [mutilated] from Mr. Johnston, Deputy Paymaster, payable to yourself. You will acquaint Mr. Hunter for me that his Majesty's service, under my direction, requires the further sum of ten thousand pounds sterling, to be sent to Fort Cumberland at this place in three months at furthest from this day, to be intrusted to the care of such person as he shall choose for that purpose, who, upon his arrival at the fort with it, shall have a proper mutilated appointed him for the safe custody of it. You will also acquaint Mr. Hunter that [mutilated] he shall send with the same money shall [mutilated | reasonable allowance for his trouble and that the expense of his servants and all other charges that may necessarily attend the sending it shall be allowed. You will continue at Hampton no longer than two days at the furthest, and if you cannot, in that time, get whole sum of four thousand pounds fr Mr. Hunter, you will return to me as speedily as may be with such part of it as you shall be able to receive. You will take care to bring me a positive answer from Mr. Hunter, whether I may depend upon ten thousand pounds being sent to Fort Cumberland by the time mentioned in these instructions."

were issued from the camp at Fort Cumberland

With regard to Braddock's personal character as distinguished from his military abilities. timony is conflicting. According to Brock, his arrogance made him obnoxious to both the native soldiery and the Indian allies, and there is a tradition that he was murdered by one of the former. Thomas Fausett, subsequently a esident of Fayette county, Pennsylvania, who, in later years, avowed the act. We are told by the same authority that "Braddock's private character appears to have been that of a heartless, broken-down gambler and spendthrift." It is admitted, however, that those who mos hitterly censured him allowed him certain merits. Thus Horace Walpole wrote: parate in his fortunes, brutal in his behavior obstinate in his sentiments, he was still intrepid and capable." A low opinion of him is expressed William Shirley, son of Gen. Shirley. an aide-de-camp and military secretary to Braddock, in a remarkable letter addressed to Lieut.-Gov. Morris of Pennsylvania. The original, which, for obvious reasons, the writer requested the recipient to burn, was pre-served and is now in the office of the Secretary of the Commonwealth of Pennsylvania at Har risburg. We quote the most interesting pas-"I don't know what description Mr. Peters will give you of our camp and the principal persons in it, but, as this goes in his pocket, I will give you mine, grounded upon the observation of several months. We have a General most judiciously chosen for being disqualified for the service he is employed in in almost every respect. He may be brave for aught I know, and he is honest in pecuniary matters. But, as the King said of a neighboring Governor of yours, when proposed for the command of the American forces about a twelvemonth ago, and recommended as a very honest man, though not remarkably able, 'a little more ability and a little less honesty upon the present occasion might serve our turn better.' It is a joke to suppose that secondary officers can make amends for defects of the first; the mainspring must be the mover; the others, in many cases, can do no more than follow and correct a little its . As to these, I don't think we have much to boast. Some are insolent, others capable, but rather aiming at showing their own abilities than making a proper use of . I have a great love for my friend Orme Iwriter of the letter to Washington above quoted). I think it uncommonly fortunate for our leader that he is under the influence of so onest and capable a man. But I wish, for the sake of the public, that he had some more experience in business, particularly in America. As to myself, I came out of England expecting that I might be taught the business of a military Secretary but I am already convinced of my mistake. I would willingly hope my time may not quite be sont to me. You will think me out of humor. I own I am so. I am greatly disgusted at seeing an expedition (as it is called) so illconcerted originally in England and so illappointed; so improperly conducted since in America; and so much fatigue and expense incurred for a purpose which, if attended with success, might better have been left alone. I speak with regard to our particular share However, so much experience have I had or the injudiciousness of public opinion that I have no little expectation when we return to England of being received with great appliause. I am likewise further chagrined at seeing the prospect of affairs in America, which, whom were at Alexandria 1 looked upon to be very great and promising, through delays and disappointments which might have been prevented, grown cloudy and in danger of ending in little or nothing. I

have hores, however, that the attempts against

thing. I don't know whether there is any man but yourself to whom I would have wrote some parts of this letter, or should at present have stifled myself in doing it, but there is a pleasure in unburdening oneself to a friend. 1 should be glad if you would burn it as soon as you have read it. I shall be very happy to have reason to retract hereafter what I have here said and submit to be censured as moody and apprehensive. Pray take no notice of any part of this letter in your answer to me, for fear o

Shortly after the date of this letter the de-

feat of Gen. Braddock occurred, and William Shirley was killed during the engagement Washington, it may be remembered, had rejoined the army under Braddock only the tay before the fight on the Monongahela, and while he was yet in a low and enfeebled state of health. On July 18, 1755, Capt. Robert Orme, the aide de camp of Braddock previously mentioned, who himself had been wounded in the fight against the French and Indians, ad dressed to Lieut.-Gov. Morris of Pennsylvania letter, from which we make some extracts; I conclude you have had some account of the action near the banks of the Monongahela, about seven miles from the French fort | Du quesnel. As the reports spread are very imperfect, what you have heard must consquently be so to you. You should have heard more early accounts of it, but every officer whose business it was to have informed you was either killed or wounded, and our distressful situation put it out of our power to attend to it so much as we would otherwise have done. The 9th inst. we passed and repassed the Monongahela by advancing first a party of three hundred men, which was immediately followed by another of two hundred. The General, with the column of artillery, baggage, and the main body of the army, passed the river the last time about 1 o'clock. As soon as the whole had got on the fort side of the Monongahela we heard a very heavy and quick fire in our front. We immediately advanced in order to sustain them. But the detachment of the two hundred and three hundred men gave way and fell back upon us, which caused such confusion and struck so great a panic among our met that afterward no military expedient could he made use of that had any effect upon them. The men were so extreme ly deaf to the exhortations of the Gen-eral and the officers that they fixed away in the most irregular manner all their ammunition, and then ran off, leaving to the enemy the artillery ammunition, provision and baggage; nor could they be persuaded to stop till they got as far as Guest's Plantation; nor there only in part, many of them proceeding as ar as Col. Dunbar's party, who lay six miles on the side." Capt. Orme goes on to say that "the officers were absolutely sacrificed by their unparalleled good behavior, advancing sometimes in bodies, and sometimes separately, hoping, by such example, to engage the soldiers to follow them, but to no purpose. The General had five horses killed under him, and, at last, received a wound through his right arm into his lungs, of which he died on the 13th Poor Shirley was shot through the inst. head. Mr. Washington had two horses shot under him, and his clothes shot through in

cording to as exact an account as we are yet able to get." The writer explains the division of the expeditionary column into two parts. "Upon our proceeding with the whole convoy to the Little Meadows, it was found impracticable to advance in that manner. The General, therefore, advanced with twelve hundred, with the necessary artillery, ammunition and provisions, leaving the main body of the convoy under the command of Col. Dunbar, with orders to join him as soon as possible. this manner we proceeded with safety and expedition till the fatal day I have just related, and happy it was that this disposition was made. Otherwise the whole must either have starved or fallen into the hands of the enemy, as numbers would have been no service to us when our provisions were all lost. Our number of horses very much reduced, and those extremely weak, and many carriages being wanted for the wounded men occasioned our destroying the ammunition and superfluous part of the provisions left in Col. Dunbar's convoy, to prevent its falling into the hands of the enemy. As the whole of the artillery was lost, and the troops are so extremely weakened by death, wounds and sickness, it was judged impossible to make any further attempt. Therefore, Col. Dunbar is returning to Fort Cumberland, with everything he is able to bring up with him." It will be observed that Capt. Orme seems to approve of Dunbar's retreat, but it is well known that the | was surprised on entering a tavern to find movement not only subjected the latter to I it kent by a Captain, a Major or a Colone much animadversion in Virginia, but caused him to be sent into honorable retirement as Lieutenant-Colonel of Gibraltar. He was never

several places, behaving the whole time with

the greatest courage and resolution. Sir Peter

Halket was killed upon the spot. Col. Burton

and Sir John Clair were wounded. Enclosed I

have sent you a list of killed and wounded ac-

again actively or independently employed. A few days after the defeat of Braddock, Washington returned quietly to Mount Vernon arriving on July 26, 1755. On Aug. 14 he wrote to his mother: "If it is in my power to avoid going to the Ohio again I shall, but if command is pressed upon me by the general voice of the country, and offered upon such terms as cannot be objected against, it would reflect dishonor upon me to refuse it, and that, I am sure, must or ought to give you greater uneasiness than my going in an honorable command. Upon no other terms will I accept of it. At present, I have no proposal made to me, nor have I any advice of such an intention. except from private hands." As a matter of fact, on that very day Gov. Dinwiddle was signing, in Williamsburg, Washington's co mission as Commander-in-Chief of the Virginia forces, the Legislature of the Dominion having appropriated the money for raising six teen companies to be formed into a regiment. The last letter relating to Braddock's defeat is addressed to Washington, "My dear George," by the same Capt. Robert Orme, to whom we ave referred above. In view of the opinion of Braddock's character which has been generally eld, it may be well to note this testimony that vindicates his memory and bears witness to the loyal impulses of the writer's heart. "Your letter gave me infinite pleasure, as every mark of your friendship and remembrance ever will do. For, believe me, I shall ever, however separated, cultivate as close an intercourse as our distance will permit. I thought you very ong before you wrote and feared some accident which your ill state of health at parting from us seemed to confirm. The part of your letter mentioning the reflecions upon the General gives me much uneasiess, though I feel a contempt for the detractors which alleviates in some degree my conern. I know the ignorant and rascally C. D. is one promoter through resentment and majovoe, and the thick-head baronet another, intending to build his character upon the ruins f one much more amiable than his can be For my part, I judge it a duty to vindicate the character of a man whom I greatly and deservedly esteemed, and I think every man whom he regarded should be his advocate, keeping literally to facts which must always approve the goodness of his disposition. I am convinced the affection he bore you, as well as your integrity and good nature. will make you assiduous in removing these abominable prejudices the generality of people have imbibed and publish. It is very hard the bluntness and openness of a man's temper should be eatled brutality, and that he who would hear opinions more freely than any man | both in town and country; where gir's of should be accused of obstinacy and peremptoriless. In short, in a thousand particulars, I find such lies and opposites that I will say no more. Pray write to me in Philadelphia, and | been a cousin or a brother; and, above all, direct at the Governor's, and to me in London n Hollis street, sending me from time to time the American news, and commanding my services in England, which will ever give me the

Soon after his return to England Copt. Robert Frme resigned his commission and married self, from all that he held most dear in the Hon. Audrey Townshend, only daughter of Charles, Viscount Townshend, and sister Miagara will succeed, which is the principal of Lieut.-Col. Roger Townshend, who fell at bodied his experience and his observations amore than twenty years' labor in a limited disorder of the ear tubes and congestion. The hereditary history of prostitutes is ex-

Ticonderogs to 1759, and of George, afterward first Marquis Townshend, who succeeded Gen. Wolfe at the capture of Quebec. Capt. Orme left an interesting journal of Braddock's campaign, which was published by the Pennsylvania Historical Society in 1855. M. W. H.

Trevelyan's American Sevolution.

Sir GRORGE OTTO TREVELYAN, well known to American readers as the author of the Life and Letters of Lord Macaulay and of the Early History of Charles James Fox, has now taken up the account of the latter statesman's life from the point at which he dropped it eighteen years ago. He has found however, that the . 'Meulties of writing a political biography, as distin guished from a political history, were, in this ease, insuperable. The story of Fox between 1774 and 1782 is inexplicably interwoven with the story of the American Revolution. During that part of the great drama which was enacted within the walls of Parlia ment. For was never off the stage; and, when there, he played a conspicuous, and, as time went on, confessedly the leading, part. What was done and spoken at Westminster cannot be rightly explained, nor can the conduct of British public men be fairly judged without clear and detailed accounts of what occurred contemporaneously beyond the Atlantic. For that reason Sir George denominates the second part of his life of Fox The American Revolution, the first volume of which, covering the period from 1768 to 1778, is now published by Longmans, Green & Co

In a discussion of the forces in British polities which worked against a permanent reconciliation of the colonies to the mother country after the repeal of the Stamp act, Sir George Trevelyan lays stress upon the profound difference in respect of manners and of morals. He recognizes that Cabinet Ministers were incessantly misinformed about the colonies, but e insists that, could they have known the Americans better, they would only have loved them less. The higher up in the peerage at Englishman stood, and the nearer to influence and power, the more unlikely it was that he would be in sympathy with his brethren across the seas, or that he would be capable of respecting their susceptibilities and of anprehending their virtues, which were less to als taste even than their imperfections. Our author deems it needless to recapitulate any portion of the copious mass of evidence drawn from their own mouths and those of heir boon companions and confederates, by aid of which, in the Early History of Charles James Fox, a description was given of the per sonal habits and the public morality prevalent among the statesmen whom the majority in Parliament supported, and in whom the King reposed his confidence. How they drank and ramed, what scandalous modes of life they led themselves and joyously condoned in others, what they spent and owed and whence they drew the vast sums of money by which they fed their extravagance, may be found set down in a hundred histories and memoirs, dramas, novels and satires. But the story is nowhere recorded in such downright language, and with so much exuberance of detail, as in the easy mutual confidences of the principal actors. Very different was the state of public opinion

in America. The people in the settled dis-

tricts had emerged from a condition of cruel

hardship to comfort, security and as much leisure as their temperament would permit them to take. Their predecessors had fought and won their battle against hunger and cold and pestilence; against savage beasts and savage men. As time went on, they had confronted and baffled a subtler and more deadly adversary in the power of the later Stuarts. As oon as the exiles had conquered from the wilderness a country which was worth possessing, the statesmen of the Restoration stepped in o destroy their liberties, to appropriate their ubstance and to impose on them the form of Church government to escape from which they had crossed the ocean. Those varied and protracted struggles had left a mark in the virile and resolute temper of the Revolutionary generation, in their readiness to turn a hand to any sort of work, on however sudden an emergency, and in their plain and unpretentious habits. The Northern colonies, at all events, contained a population of whom it might truthfully be said that none was idle and none was ignorant. "There," wrote De Ségur. "no useful profession is the subject of ridicule or contempt. Idleness alone is a disgrace. Military rank and public employment do not prevent a person from having a calling of his own. Every one there is a tradesman, a farmer or an artisan. Those who are less well off-the servants, laborers and sailors-unlike men of the lower classes in Europe, are treated with a consideration which they merit by the propriety of their conduct and their behavior. At first I who was equally ready to talk, and to talk well, about his campaigns, his farming operations, or the market he had got for his roduce or his wares. I was still more taken aback when, after I had answered the question put to me about my family, and had informed the company that my father was a General and Minister of State, they went on to inquire what was his profession or his business." Evidently there could be no personal sympathy and no identity of public views between the governors in Downing street and the governed in Pennsylvania and New England. On the one hand was a commonwealth containing no class to which a man was bound to look up, and none on which he was tempted to look down, where there was no source of dignity, except labor, and no luxury but a plenty which was shared by all. On the other hand was a ruling class, each member of which, unless by some rare good fortune, was taught by precept and example, from his schooldays onward, that the greatest good was to live for show and pleasure; that the whole duty of senatorial man was to draw as much salary as could be got in return for as little work as might be given for it; and that, socially and politically, the many were not to be reckoned as standing on a level with the few. In a paragraph of his second chapter the author points out that we need not go to their sons and husbands for our knowledge of what American women in the Revolutionary epoch were. The French gentlemen who came to the help of the United Colonies were quick to discern the qualities which dignified and distinguished their women; and it is to the credit of the young fellows that they admired an ideal of conduct which might have been supposed ess to the taste of a soldier of passage than that which they had left behind them at Paris. Sir George Trovelyan finds it hard to believe that the French knight errants of the war of American independence, each of them the soul of chivalry, belonged to the same nation as certain swashbucklers of Napoicon, who, after trailing their sabres over Europe. confided to the chance reader of their autoblographies their personal successes, real or pretended, among beautiful and unpatriotic women in the countries which they had visited as invaders. After their return home, Lafayette and De Ségur, courageous in the drawing room as in the field, openly proclaimed and stendfastly maintained that, in the beauty, ele gance and talent of its ladies. Boston could hold its own with any capital city, that of France ineluded. De Segur, in particular, astonished and charmed his hearers by his description of a community where what passed as gallantry in Paris was called by a very plain name indeed; where women of station rode, drove and walked unattended sixteen trusted themselves to the escort of guest who, vesterday, had been a stranger, and talked to him as frankly and as fast as if he had

where a young Quakeress, who, in her white

dress and close muslin cap, looked like a

nymph rather than a mortal lectured him o

having deserted his wife and children to pur

rejected the plea that he had severed him-

order to fight for the liberty of her country. After the war was over, De Segur em-

In a series of predictions concerning the future of the United States. He clearly fore-saw that the question whether the South and North were to part company would, one day, arise in a formidable shape. He foretold that wealth would bring luxury and luxury corruption. With regard, however, to that prirate mornlity which, of all he found in America, he approved the most, he did not venture "I shall be told," he on a specific prophecy. wrote. "that America will not always preserve these simple virtues and these pure manners; but if she preserves them only for a century that, at any rate, will be a century gained."

II. Sir George Trevelyan concurs with Senator

Lodge in his estimate of the importance of the

sattle of Bunker's Hill to the Revolutionary

cause. It is true that this importance was not mmediately recognized by contemporaries. The author of this book recalls that, after the battle, although depression reigned in the belenguered city, there was no exultation in the eamp of the besiegers. The truth is that, in war as in politics, the morrow of an epoch-making event is not always charac terized by exhibitations. There is wearines: and disappointment and a consciousness that the thing has not been completely done, and an uneasy suspicion that it had better never have been attempted. Bunker's Hill, the next morning, and even for some years afterwards, presented to the colonists who had taken a share in it the aspect of something very much short of a Marathon. Contemporary secounts of the action were in a tone of apology or even of censure. The affair produced a whole sheaf of court-martials. No one came forward to claim the credit of it, and more than one 17th of June came and went without a proposal being made to keep the day as an anniversary. The patriots had expected from the enterprise tactical advantages which it was not capable of yielding, and they did not at once perceive that, in its indirect results, it had been the making of their cause. The true significance of what had happened was first etected by their adversaries, and the most accurately by those who knew the country est. A Mossachusetts loyalist, who fought so well for King George that he rose to be a full General in the British Army, regarded Bunker's Hill as a transaction which controlled every-"You could not," he thing that followed. would say to his friends on the other side, have succeeded without it. In the then state of parties, something was indispensable to fix men somewhere, and to show the planters of the South that Northern people were in earnest.

That did the business for you." "The rebels." wrote Gage, a week after the battle, "are shown not to be the disorderly rabble too many have supposed. In all their wars against the French they have shown no such conduct and perseverance as they do now. They do not see that they have exchanged liberty for tyranny. No people were ever governed more absolutely than the American provinces now are: and no reason can be given for their submission but that it is a tyranny which they have erected themselves." Our author deems these conclusions just, though they were not expressed in friendly words. Bunker's Hill had exhibited the Americans to all the world as a people to be courted by allies, and to be counted with by foes; and it had done them the yet more notable service of teaching them some home truths. It was a marvel that so many armed citizens had got together so quickly, and a still

greater marvel that they had stayed together so long. Even a Cabinet Minister could not now deny that, as individuals, they possessed the old courage of their race. They had displayed, moreover, certain military qualities of a new and special type, such as were naturally developed by the local and historical conditions under which they had been born and bred. No one, however, who passed the early hours of that summer afternoon on the hill over Charlestown, and, still more, no one who witnessed the state of things in the rear of the position and among the headquarters staff at Cambridge, could be blind to the conviction that a great deal would have to be done and undone before the colonies were able to hold the field throughout the protracted struggle which was now inevitable. The material was there, excellent, abundant and ductile, of a national army, with features of its own deeply marked; but to mould that material into shape was task which would have to be pursued under difficulties of unusual complexity. The ar tificer was already found. The Second Continental Congress had appointed George Washington of Virginia to the command of the force besieging Boston, and on the date of the battle of Bunker's Hill he was on his way to Cam-

bridge. The comment of Frederick II. of Prussia on the evacuation of Boston is made by Sir George Trevelyan the text of some paragraphs with which the present installment of his history concludes. "When I reflect," said Frederick. on the conduct of that Government the Ministry of George III. in the war with their colonies, I am almost tempted to say what the theologians maintain with regard to Providence, that their ways are not ours." Heartily oncurring in this dictum, our author suggests that North and Sandwich resembled Frederick as War Ministers even less than Gage bled him as a General or George III, as a nonarch. Bunker's Hill had been a soldier's hattle; but the responsibility for the campaign of which it formed an episode lay with the placemen and their royal master. They had contrived among them to bring about the disomfiture of a valiant army, responsive to discipline and containing more than a due proporon of distinguished and promising officers They had involved it in almost every calamity which could befall a military force except dis grace. They had so managed matters that, in a region overflowing with plenty, their troops had been fed from Leadenhall Market, as an orator of the Opposition put it. Burke was reported to have said that, though £200 a man had been spent on salt beef and sauerkraut, our garrison could not have remained ten days longer in Boston unless the beavens had rained down qualls and manna iet, much as the English had suffered during the course of the slege from the scarcity and hadness of their food, they lost, in the last resort, the comparative satisfaction of having yielded to famine, and not to force. The Govrnment deprived Howe of 2,000 infantry at the moment when he most needed to be strong. The reinforcements which were sent from home to fill the void arrived two months too late, and so it came to pass that the ill-used General was, in the end, not starved, but manœuvred out of his position. The acts of aggressive warfare sanctioned or condoned by the Ministers were as futile as their defensive arrangements, and had consequences most disastrous to British interests. They had not occupied a single square furlong of soil. fortified or open, in any of the colonies, but they had shelled three towns, had rendered bankrupt a score of loyal merchants, and had made a few hundred families homeless. They had alienated all the neutral opinion in America, and had lighted a flame of resentment against Great Britain which they continued to feed with fresh fuel until it grew so hot that itdid not burn itself out for a couple of life-

This volume closes with the expression of a enviction that England had never reaped so little glory or advantage from so great an exenditure of money, and after so much prel minary awagger on the part, not of the people who were to pay, or the soldiers who were to fight, but of the statesmen who had already egun to blunder, as she reaped at Boston in 1775. Col. Barré, in a speech rich with traitional knowledge and personal observation of war, declared that England's unsuccessful effort to keep her ground in one small corner of her own empire had cost the Treasury half much again as the operations of the year 1704, in which her armies were conquering all over Europe, from Blenheim to Gibralta:

Degeneracy.

The latest addition to the Contemporary cience series is a volume entitled Degeneracy Dr. EUGENE S. TALBOT (Scribners). The author, who is a well-known dentist and aurist, tells us that this work is the result of

ical department of biology. The truth of the doctrine of degeneracy had forced itself upon him, it seems, long before the propagation of it by Lombroso and Nordau, because it alone sufficed for an explanation of certain constitutional and local defects. The doctrinaire reformer, however, will here find no support for any narrow and arbitrary theories, The writer avoids laying stress on any one tuse of degeneracy. With a view, also, to selen tifle accuracy, he avoids making any attempt to demarcate rigorously abnormality from disease or atavism from arrested development. The guiding principle followed is that the factors of degeneracy affect in the ancestor the checks on excessive action which have been equired during the evolution of the race and thus produce a state of nervous exhaustion. The descendant, consequently, is unable to reach the state of the ancestor thus nervously exhausted. Enfore directing attention to the chapters which deal with bodily, mental, and noral degeneracy, we would mark what the author has to say about the toxic effects of certain stimulants, to wit, alcohol, opium, tobacco

tea and coffee. Dr. Talbot is not one of those who regard alcohol as being the presminent factor in pro ducing degeneracy. He admits that the statis tics compiled during the first half of the pres ent century seemed to justify the conclusion that it is the most potent agency, but he points out that those statisties confounded coincidence and cause, or effect and cause, to a remarkable degree. As a matter of fact, a vast majority of the races of mankind have used alcoholic beverages. Each of these is called by a local name, thus offering conclusive evidence of local origin. Even the social insects (beer and ants) at times indulge in fruit ferments. The assertion, therefore, that cohol is a product of high civilization, hence of recent origin, and hence peculiarly destructive, is untenable. That excess in alcohol frequently occurs in degenerate stocks is, in truth, undeniable, but, as Krafft Ebing, Klernan, Spitzka, and others have shown, the inability to tolerate alcohol is itself an expression of degeneracy. The person intolerant of alcohol becomes either a total ab stainer because of a personal idosyncrasy (like that which forbids certain people to eat shellfish, lest nettie rash occur), or because of parimony, or for both reasons combined. It is noteworthy that such total abstainers leave degenerate offspring, in which degeneracy assumes the type of excess in alcohol, as well as ven lower phases of deterioration. In Dr. Talbot's opinion the race tests of the deterior ating influence of alcohol are practically valueless, nor are statistics concerning alcholism in the ancestry of degenerates much more useful. The alleged enormous amount of idiocy, for instance, in Scandinavian countries, which used to be imputed to alcoholism in the parents, has been by the most recent researches cut down to less than 7 per cent. Insane hospital statistics vary to a like degree. It is not bad faith that is attributed to these statistics, but lack of analytic skill and the dangerous unscientific philanthropic tendency which rebeis at data unfavorable to preconceived sociologic theories. The ignoring of everything except the alco holic factor opens the door to many elements of error. Kiernan, for example, cites twentythree cases in which degenerate stocks were charged to alcoholic parentage, but which, on analysis, proved to be due to a degenerate 'actor in the parents, of which alcoholism was

merely one expression. It follows that the influence of alcohol must be studied in the individual, if we would deterline its value and its method of action, consid ered as a cause of race deterioration. Careful medical researches have shown that alcohol produces a nervous state closely resembling that produced by the contagions and infections, a state which is often, but not always, accompanied with mental disturbance. There is, however, a greater tendency to impotence and ster ility in the nervous state induced by alcohol than in that due to contagions and infections. Consequently, alcohol exerts less influence on race deterioration. It is acknowledged that alcohol is ant to set in action degenerative tendencies latent in the liver and kidneys Like all toxic agents, moreover, alcohol interferes with the functions of the eye, and ear, and nerves. Special weakness of the kind thus created is transmissible to offspring. The mental disorders of chronic alcoholism are compared with those of tuberculosis, except that caprice and exaltation are less from quent than the tendency to suspicion, which ometimes takes the form of delusions of polsoning and insane jealousy. There is, in a rd, no doubt that, but for its deteriorating effects on the ovaries and testicles, alcoholwould be a serious social danger. Through its action on the generative organs, however, it tends to prevent the survival of the unfit

rather than to develop degenerates. The abuse of opium as a narcotic seems to be much older among English-speaking races than is generally suspected. It has been demonstrated that the inhabitants of the Fens of Lincolnshire long ago employed onium as a prophylactic against malaria. The ratio of in sanity in that region was very great. Similar enditions once obtained in certain malarial regions of New Jersey and Pennsylvania, where the use of strong infusions of the poppy was common. Rush's statistics show that the perntage of opium abuses in Pennsylvania at the beginning of this century was very large. The drug differs in two important respects from alcohol. It is nearer in chemical composition to nerve tissue, and the tendency to its use may be transmitted by the mother directly to the foctus, which, as Bureau and Binger have shown, receives through the pla-centa from its opium-using mother, a certain amount of morphine. In consequen the child, in the first month of infancy, must be nourished on the milk of an opium-using woman, or receive opium in some other way, lest it perish. It has been proved that not only are the children of opium-using mothers born with a tendency to the opium habit, but the mothers frequently abort with twins, and the children who survive are very liable to convulsions. Opium is a more dangerous factor of degeneracy than alcohol, since the opium user must be in a continuous state of intoxication to pursue his usual vocation, while abstinence compatible with proper work on the part of the drunkard. The oplum habit is increased by the peculiar propaganda carried on by the habitues, who strive to justify their practice by urging the use of opium for any aliment, however trivial. Opium does not have alcohol's tendency to interfere with the structure of the ovaries and the testicles; hence the greater danger of the oplum consumer's children surviving. Opium, indeed, stimulates the repro-

ductive apparatus. The origin of the use of tobacco is usually averibed to the New World, but historical botanical evidence leaves no doubt that tobacco was indigenous in western Asia. In author's judgment, the statistical method, generally adopted, proves no less fallacious when applied to the degenerative effect of to bacco then it does in the case of alcohol and opium. A careful study of its effects on the individual is needed to determine its further effects on the race. The most careful researches indicate that the typical effects occur, as a rule, only after long-continued use of tobacco and, sometimes, not until twenty years or more. While many smokers reach old age, many, on the other hand, fail to do so because they are smokers. Among the proofs that nicofine has been absorbed in excess are loss of appetite and vomiting. In women mer, struct dis-turbance occurs: abortion and pluriparity are frequent in female cigarmakers. The acx ual appetite is impaired, and sometimes sterility and impotence are observed; also disturbed heart action, polphation, rapid and intermitting pulse, with scierosis of the ar-terios and left vontricular hypertrophy. Cigars and eigarettes produce initiation of the nose and of the mucous membrane and chronic hypermenia of the epiglottis and harvax, sometimes, miso, of the traches and bronchi, thus predisposing to consumption, deformities of the laws was large, Twenty Nicotine amblyopia, or sight weakness, is ommon; often, too, there is remarked present in one person only.

aural nerve. tem is affected. The central nervous sysis comparatively rare in smokers, though it occurs commonly in snuff-takers, and still oftener in chewers. In those who become habitual cigarette smokers before the age of puberty the proper development and balance of the sexual and intellectual systems is checked. These patients are apt to break down mentally and physically between fourteer and twentyfive. Statistics compiled among the female employees of Spanish, Cuban, French and American tobacco factories lead to the conclusion that the maternal tobacco habit is the cause of frequent miscarriage, of high infantile mortality, of defective children and of infantile

As regards the effect of tea, we are reminded

hat professional tea-tasters suffer from nerv-

one disorders. Very early in the practice of their occupation the head-pressure symptoms of neurasthenia are observed. Tremor also occurs early. Eye disorders have been remarked in the pauper tea drinkers of the United States and in the tea-tasters of Russia, thus indicating that changes similar to those caused by tobacco and alcohol are likely to be induced in the optic nerve by tea. The neurasthenia brought about by tea is apparently transmissible to offspring. The Lancet, sev eral years ago, after an analysis of the effects of tea-tippling, arrived at the deduction that, in no small degree, nervous symptoms, occurring in children during infancy, were due to the fact that the mothers had indulged in an excessive use of tea, the excess. of course, being judged by its effect on the in-dividual and not on the amount taken. Coffee exerts an action similar to that of tea, albeit the nervous symptoms produced by it are usually secondary to the disturbances of stomach and bowel digestion. Coffee causes tremor nsomnia, nervous dyspepsia and helmet sensations. With the exception, however, of certain districts, coffee abuse is not carried, in the United States, to such an extent as tea. In Germany, on the other hand. Mendel finds that coffee inebriety is increasing and supplanting alcoholism.

11.

Now let us glance at some of the conditions which are expressive of bodily degeneracy Among these are three known as infantilism masculinism and feminism. Practically, al three are arrests in the development of the promise of the child type. Owing to the struggle for existence which occurs at puberty between the old type of the eranium and its new type, as supplemented by the dermal bones, the nervous system takes a distorted ply, which arrests the bodily, nervous and mental development at certain points. In infantilism, the body and face may remain at the childish point, or the body and nervous system may be arrested, or, finally, the nervous system, or certain organs alone, may be checked, while the rest of the body goes on to full devel opment. Not infrequently the face is arrested at any period from birth to puberty. This is the reason why many persons retain a youthful appearance throughout life. These people are. usually, vain and egotistic. The mental stamina of the males is weak and they are generally untrustworthy, while the females are frequently prostitutes, prurient prudes, hysteric reformers or gossipmongers. In the case of masculinism, so-called, the female has ultimately proceeded in developme far as to have female organs and their functions, while retaining the dominant traces of the lower male type. In the case of feminism, the male has proceeded along the line of evolution toward the female type, but, ere sex has been fixed, further development in that direction has been stopped, and the male type finally becomes predominant. The arrest of development may take place at any stage in the embryonic evolution. Thus the male may preserve only the female breasts, while normal in other respects; or, again, present sloping shoulders and be otherwise masculine. On the other hand, his nervous system may have taken such a ply that at the period of puberty the sexual instincts may be female in type. In some instances this may extend to extreme modesty toward males, to an intense liking for female employments and to disgust for male oc-

never suspected until a post-mortem examination revealed that the supposed woman was a male. In other cases, where the system has taken one sexual ply, while the body has taken another, an exceedingly unfortunate class of beings results. This class of persons needs especially careful training during puberty and adolescence. In some instances, in addition to the sexual distortion, there exists in these beings conditions of mental defect and moral obliquity; they then approximate the criminal type. Among other striking manifestations arising from arrested development in certain directions, with possible hypertrophy in others, are the conditions known as giantism and dwarfism. Both these conditions may be expressions of atavism in no very remote ancestors, and present few, if any, evidences of degeneracy. deed, is very apt to be attended by preservation of the intellectual faculty, without evidence of degeneracy, except the egotism shown in extreme vanity. Moral defects are, however, more apt to occur in dwarfism than in giantism. In the last condition mental defect is apt to be presented, varying from a simple good-humored stupidity to feeble-mindedness. In a chapter on sexual degeneracy Dr. Talbot points out that prostitutes, paupers and inebriates have this in common, that crime in them has taken the line of least resistance. The great ethical defect in the prostitute is not the lack of checks on explosive sexual propensities so much as the use of these last as a method of living by her wits. Prostitution is defined as, in its essence, the expression of the same criminal tendency which is manifested by the confidence operator. The researches of sociologists like Chaplain and Merrick of the Milbank Prison, London, show that at least one-half of the English prostitutes leave their homes voluntarily to take up what they call "a life of pleasure." Pauline Tarnowsky in he anthropometric studies of the subject finds that in Russia prostitution should be described as crime in women taking the line of least resistance. Pro-titutes, like other criminals, are divisible into criminals created by the occasion (vice, pecuniary rea-sons, and so forth), accidental criminals, lawmade criminals, weak-willed criminals, and insane criminals. The proportion, however, of law-made and accidental culprits among prostitutes is much less than among other criminals, as Merrick has shown. Contrary to a current opinion, seduction stands very low in the list of causes. The proportion of the occasional criminal type is very large. Pauline Tarnowsky concludes from her researches, which those made by Dr. Talbot tend to verify that the prostitute, as a rule, is a degenerate being, the subject of an arrest of development, tainted with a morbid heredity, and presenting stigmata of physical and mental deterioration in consonance with her imperfect lution. C. Andronico of Messina arrived some time previously at the same conclusions as those reached by Tarnowsky. The latter found that 44% per cent, of prostitutes have

skull deformities, 42', face deformities, 42

ear deformities, and 54 teeth deformities.

Andronico found among 230 prostitutes the

ollowing anomalies: Flat nose, 20; handle-

shaped ear, 35; victous implantation of teeth.

10; convergent strabismus, 2; facial asymme-

Grimaldi, in a study of 26 prostitutes, reached

broso, in an examination of 50 subjects, found

exaggerated taws, 27 kinds; pingiocephate.

try, 4; prognathism, 7; receding forehead, 35,

results similar to those of Tarnowsky.

cupations. In the female analogous conditions

may occur. In one case a male who had under-

gone arrest of development in his evolution to

ward the female type was brought up as a girl.

and evinced unusually pleasing womanly qual-

ities. As a result he was married twice to in

tensely devoted husbands, and his real sex was

ized by Alexandre Dumas the younger in "la Dame aux Camelias." Her paternal grandmother, who was half prostitute, half beggar, gave birth to a son by a country priest. This so was a rural Don Juan, a peddler by trade. The paternal great-grandmother was a nymphomaniac whose son married a woman of loose morals by whom a daughter was brought forth. This daughter married a peddler; their shild was Marie. She had the confidence-operate tendencies of many of her class. She died childless early in life from consumption. Our author's conviction is that in view of their ancestry, perverse in inches and habits prosti-tules cannot be cured or reformed by the enforcement of municipal ordinances. Even when those of a criminal and congenital type are taken from their surroundings and placed where they can earn an honest livelihood they

soon go back voluntarily to their old life. In a chapter on sexual training, Dr. Taibot expresses the opinion that too much of what is called sexual purity is very often an expression of sexual perversity. Great stress has been taid on the dangers of coeducation but De Talbot's conviction is that education limited to one sex is the source of even greater dangers to both boy and girl. It is, he says, a matter of common observation among genito-urinary specialists, alienists and gynecologists that much of the alleged "purity" so ostentationaly displayed by graduates of colleges limited to one sex is often the offspring of a sexual perversion, which, whether congenital or not, has been fostered by the environment of one sex, without the modifying, healthy influence of the

NOTES ON SCIENCE AND INDUSTRY.

Some interesting facts are mentioned in respect to the forgings for a new engine intended for the Bos-ton Elevated Railroad Company, to be made by the Bethlehem Iron Company, at South Bethlehem, Pa. The shaft for the engine is to have a measurement of 27 feet and 10 inches in length and 37 inches in diameter. It will be hollow forged, having a hole 17% inches in diameter, and the shaft when completed, together with cranks and flywheel hub, will weigh upward of 150,000 pounds. In certain respects it would appear that this is to be a remarkable forging, the specifications calling, among other details of construction, for the bighest grade of fluid-compressed nickel steel, annealed and oil empered, the material also to show an elastic limit of 50,000 pounds per square inch, and an elongation of 18 per cent, in test pieces 1 inch in diameter and 10 inches long. The definite dimensions are stated to be: Diameter of flywheel fit, 37 inches; diamete f journals, 34 inches; diameter of crank-web fit, 2 mches; diameter of axial hole, 17% inches; length over all, 27 feet and 10 inches. The estimated reight is 63,000 pounds.

Details of the reported invention by two Englishnen and a Frenchman of a successful method of crinting in different colors simultaneously are published in the columns of the Archie fuer Buchdrucker Kunst. The process is one of peculiar interest, de-viating entirely, as it does, from all the ordinary methods yet brought forward for printing in color-It is styled the mosaic-chromatic heat process, and neither wooden blocks nor lithographic stones nor rollers play any part in the simple operations. olors which are required for the different parts of the picture are applied, in any desired number, on a plate about three-fourths of an inch thick, and form a coherent, cheesy mass, and when this arrangement of the colors is finished, the plate presents the well known aspect of a mosaic picture. The plate is placed on the bed of the machine-an ordinary lith graphic press, but adapted to this process—and the impressious are produced by the use of a cylinder heated by gas flames in the interior. It is said that this invention saves 75 per cent. of time and cost over the ordinary method.

There would appear to be more than a passing colequial significance in the expression, "What's in the air ?" Thus, according to a writer in Cosmos, a particle of dust floating in the air is made up of a nucleus of variable form, solid or liquid, surrounded by an 'atmoderm," or thin gaseous layer, adhering to the nucleus by attraction, this atmodern diminishing the weight of the dust, but not sufficiently to explain its suspension in the air; although dense than the exterior air, it is still composed of gaseous molecules that have preserved their essential prop erties; they yet, like those less closely bound are repelled by the moving molecules that circulate freely near them, or that form part of other atmoderms, and thus there results a resistance—that is, a friction of the dust particles against the surrounding atmospheric molecules. In this way friction causes very light powders to fall to earth very slowly, and, once raised by the wind, they follow the currents, even the slightest ones, of the lower layers of the air. Thus dust particles are raised easily by ascending currents, and, having reached the top of their course, fall back, but slowly, and being taken up by new currents, may consequently semain long in suspension, rising and descending alternately.

An account is given in the Reeue Scientifique of experiments made to ascertain whether the light proceeding from the glowworm may not be due to the emission of rays similar in their nature to the Rontgen. For this purpose as many as 300 of those in. ets were caught near Kioto and then placed before the photographic plates, screened from the light by several thicknesses of black paper together with plates of brass, copper and aluminum. This being done, a piece of cardboard with a hole in it was inserted between the metal and the photographic plate. For a period of two days this arrangement was kept n a dark chamber sheltered from all fersign lights. On developing the plate it was found to be blackened except the part opposite the hole in the cardboard. so that the rays of the glowworm would appear to penetrate metal and excite luminosity in cardboard.
When there is nothing between the sensitive plate and the glowworm the rays behave like ordinary ight, but in traversing some metals and cardboard they seem to acquire properties like the X-rays.

A recent invention for attaining a very high ignition and maintenance of the greatest economy in hydrocarbon chaines has been brought forward by G. C. Dymond of Liverpool, England. A portion of the discharge gases is left in the cylinder for the purpose of the ignition by a premature closing of the discharge valve, and compressed to twenty or thirty atmospheres, admission pressure—by which comparatively low pressure an increase of temperature produced from the normal discharge temperature of 350-400, to 1,000°, C. This latter is utilized for successively igniting an already produced mixture of air and by drocarbon—previously heated by the waste gases-on its entrance into the cylinder, or for causing this nixture to explode; that is, if such mixture be passed into the cylinder through wire sieves it will be gradually consumed as it enters, but if in stantaneous combustion be desired the sieve is omitted, thus allowing the flames to strike back and the whole of the mixture to be exploded in the chamber provided for it. The first ignition of all must, however, be effected in some other manner, in order to provide a combustion product for the second and succeeding ignitions. To attain the highest economy the highly compressed air, cooled during ompression, is heated directly or indirectly by the waste gases and partly by the highly heated comesed residual products of combustion, the hydro carbon being conveyed into this air, ignited and consumed.

With a view to securing the equable warming of railroad cars, with exclusion of smoke and dust, the State authorities of Indiana recommend that between the windows and walls of the car there be placed ducts leading from a register, level with the floor out through the top of the car, and that movable hoods be provided to the projecting ducts, or else that the dues be led into a pipe traversing the whole length of the car, such pipe to have valves at each end, the front valve to be closed always, and inte these ventilating ducts a branch is to be led from the heating pipes. This arrangement, it is said, will warm the air in the ducts, causing it to rise and draw out the bad air from near the floor, at the same time drawing down the warm air from the ceiling, and as such a method 4mws the bad air out, fresh air may be admitted through a few of the ventilating ducts which are not provided with hot pipes and which contain loose cott in that will strain out dust com-pletely and smoke practically. Further, double doors should be provided, even in vestibuled carethe second or innermost door to be supplied with cleaning apring hinges, to contain a glass panel, swing both ways, and stop the narrow passage between the lisets and washrooms, which are at both ends. This arrangement, it is stated, keeps out draughts, dust and smoke, when the outer vestibule door is

opened at stations. Hurry Order Puzzled the Britan.

times; nasal asymmetry, 8 times; exaggerated zygome, 40 times. In the examinations made The American is the quickest man in the orld to turn whatever is the news of the day by the author of this book, the percentage of into his conversation. This is why an Englishman glonced at the man who gave a burry nine had defective ears. Normal cars were "Roast beef, rare. Don't want it embaimed.

The Court of the C